

Introduction to Data base

1. Introduction to Data base

- (a) Introduction
 - (i) Data
 - (ii) Information
 - (iii) Meta Data
 - (iv) Definition of Data Base
 - (v) Advantages of Data Base
- (b) Data base Model
 - (i) Hierachal Model
 - (ii) Network Model
 - (iii) Relation Model
- (c) Introduction to DBMS
- (d) Function of DBMS

2. Entity Relationship Model

- (a) ERD
 - (i) Elements of ERD Model
 - (ii) E-R Diagram
 - (iii) Relationships
 - (iv) Degree of Relationship
- (b) Attributes
 - (i) Introduction to Attributes
 - (ii) Types of Attributes
- (c) Association
 - (i) 1:1
 - (ii) 1:M
 - (iii) M:M

3. Normalization

- (a) Anomalies

- (b) Function Dependency
- (c) First Normal Form
- (d) Second Normal Form
- (e) Third Normal Form

4. **SQL (Using MS SQL Server / Oracle/ My SQL)**

- (a) DDL (Data Definition Language)
 - (i) CREATE Statement
 - (ii) ALTER Statement
 - (iii) DROP Statement
 - (iv) RENAME Statement
 - (v) TRUNCATE Statement
- (b) DML (Data Manipulation Language)
 - (i) INSERT Statement
 - (ii) UPDATE Statement
 - (iii) DELETE Statement
- (c) DCL (Data Control Language)
 - (i) COMMIT Statement
 - (ii) ROLLBACK Statement
- (d) Data retrieval
 - (i) SELECT Statement
 - (ii) WHERE Clause
 - (iii) GROUP BY
 - (iv) ORDER BY
 - (v) HAVING Clause
- (e) Function Constraint
 - (i) Concept of Key
 - (ii) Primary Key, Secondary Key, Candidate Key, Alternate Key, Composite Key,
 - (iii) NOT NULL Constraint
 - (iv) UNIQUE Constraint
 - (v) Primary Key Constraint

(vi) Foreign Key Constraint

(vii) Check Constraint

(f) Function

(a) Character Function

(i) UPPER

(ii) LOWER

(iii) INITCAP

(iv) CONCAT

(v) SUBSTR

(vi) INSTR

(vii) LENGTH

(viii) LPAID

(ix) RPAID

(x) LTRIM

(xi) RTRIM

(b) Numeric Function

(i) ROUND

(ii) TRUNC

(iii) MOD

(iv) COALESCE

(c) Group Function

(i) Min

(ii) Max

(iii) AVG

(iv) SUM

(v) COUNT

(d) Conversion Function

(i) TO-CHAR

(ii) TO-NUMBER

(iii) TO-DATE

- (g) Introduction Views and data dictionary
 - (i) Create simple / complex view
 - (ii) Importance of view in multi user environment.
- (h) UNDERSTANDING/ Managing User Privileges and Roles
 - (i) Introduction to Multi user environment
 - (ii) Definition of Role and privileges
 - a) CREATE USER
 - b) CREATE ROLE
 - c) DROP USER
 - d) GRANT PRIVILEGE (DBA,ALL,SELECT, UPDATE, DELETE, INSERT)
 - e) Revoking User Privileges and Roles.